

SPECIFICATION AMENDMENTS

Please amend the paragraph beginning at page 23, line 13 as follows:

-- Number particle diameter distribution of the toner and coefficient of variation thereof used in the present invention can be measured using either of ~~Coulter counter TA-II~~ COULTER COUNTER TA-II or ~~Coulter Multisizer~~ COULTER MULTISIZER (manufactured by Coulter, Inc.). The ~~Coulter Multisizer~~ COULTER MULTISIZER connected with a personal computer through an interface manufactured by Nikkaki Co., Ltd., for outputting the particle diameter distribution is used. An aperture of 100 μm was used in the ~~Coulter Multisizer~~ COULTER MULTISIZER, and the particle diameter distribution and average particle diameter were calculated by measuring volume diameter and number diameter of the toner having a diameter of 2 μm or larger. The number particle diameter distribution herein refers to a value for expressing relative frequency of the toner particles with respect to the particle diameter. The number average particle diameter is a value for expressing a particle diameter at a cumulative ratio of 50%, or Dn50, in the particle

diameter distribution. The "coefficient of variation by number in the number particle diameter distribution" of the toner can be calculated by the equation below:

Coefficient of variation by number = $[S_1/D_n] \times 100$
where S_1 represents standard deviation in the number particle diameter distribution, and D_n represents number average particle diameter (μm). --

Please amend the paragraph beginning at page 37, line 7 as follows:

-- Stirring-and-mixing of the colorant particle and external additive is preferably proceeded by using a mechanical rotating apparatus, and more specifically, a rotary mixer such as ~~Henschel~~ HENSCHEL mixer can preferably be used. --

Please amend the paragraph beginning at page 38, line 1 as follows:

-- More specifically, for a typical case where ~~Henschel~~ HENSCHEL mixer is used as a mixing apparatus, it is preferable to adjust the volume/capacity ratio which expresses a ratio of occupancy of unprocessed object to be processed to the capacity of the

apparatus, to 30 to 80%, and more preferably 40 to 70%. --

Please amend the paragraph beginning at page 38, line 24 as follows:

-- The volume average particle diameter of the toner can be measured using ~~"Coulter Counter TA-II"~~ "COULTER COUNTER TA-II, ~~"Coulter Multisizer"~~ "COULTER MULTISIZER" (manufactured by Coulter, Inc.), or a laser diffraction particle diameter analyzer ~~"SLAD-1100"~~ "SLAD-1100" (manufactured by Shimadzu Corporation). --

Please amend the paragraph beginning at page 39, line 23 as follows:

-- In GPC measurement, a column is stabilized at 40°C, THF is allowed to flow at a flow rate of 1 ml/min, and measurement is carried out by injecting approximately 100 µl of the sample of 1 mg/ml concentration. The column is preferably based on combinations of commercial polystyrene gel columns. For example, any combinations of ~~Shodex-GPC~~ SHODEX GPC KF-801, 802, 803, 804, 805, 806 and 807, all of which are products of Showa Denko K.K., and any combinations of TSK gel

G1000H, G2000H, G3000H, G4000H, G5000H, G6000H, G7000H and TSK guard column, all of which are products of Tosoh Corporation can be exemplified. The detector is preferably a refractive index detector (IR detector) or a UV detector. In the measurement, molecular weight distribution of the sample is calculated based on an analytical curve determined by using a standard monodisperse polystyrene particle. It is preferable to prepare the analytical curve using about 10 plots of polystyrene. --

Please amend the paragraph beginning at page 60, line 5 as follows:

-- While dispersion machines used for the dispersion of the colorant are not specifically limited, they are preferably exemplified by those causing shearing force by a screen which partitions a stirring chamber and a rotor which rotates at a high speed within the stirring chamber, and finely dispersing the colorant into the water-base medium containing the surfactant using actions of the shearing force (together with actions of collision force, pressure variation, cavitation and potential core). Specific examples thereof include mechanical dispersion machine

"CLEARMIX" (product of M-TECHNIQUE), ultrasonic dispersion machine, mechanical homogenizer; pressure dispersion machines such as ~~Manton Gaulin~~ MANTON GAULIN and pressure homogenizer; and media-aided dispersion machines such as sand grinder, ~~Getzmann~~ GETZMANN mill and diamond mill. The surfactant used herein may be the same with those described in the above. --

Please amend the paragraph beginning at page 79, line 5 as follows:

-- The development device 49 comprises a toner carrier 491 disposed so as to oppose with the image carrier 46 at a predetermined distance, a feeding member (not shown) for feeding the toner to the toner carrier 491, a limiting member 492 for limiting the amount of toner carried on the surface of the toner carrier 491 and transferred, and for frictionally charging the toner carried and transferred by the surface of the toner carrier 491, a discharging member ~~492~~ 493 for discharging the toner remaining on the surface of the toner carrier 491 after development, and a development bias power source (not shown) and the like. --

Please amend the paragraph beginning at page 83, line 4 as follows:

-- To 160 ml of deionized water, 9.2 g of sodium n-dodecylsulfate was dissolved under stirring. While keeping the solution stirred, 20 g of carbon black "~~Mogul L~~" "MOGUL L" (product of Cabot Corporation) as a colorant was gradually added, and the mixture was then dispersed using a mechanical dispersion machine "CLEARMIX" (product of M-TECHNIQUE) to thereby prepare a dispersion liquid of a colorant particle (referred to as "Colorant Dispersion Liquid (1)", hereinafter).

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Please amend the paragraph beginning at page 85, line 21 as follows:

-- The mixture in this status was measure for particle diameter of associated particle using ~~Coulter Counter~~ COULTER COUNTER TA-II, and upon confirmation of that the volume average particle diameter reached 6.5 μm , the particle growth was terminated by adding an aqueous solution prepared by dissolving 115 g of sodium chloride into 700 ml of deionized water. The mixture was further kept under heating and stirring (number of rotation in stirring = 120 rpm) at a liquid

temperature of 90°C for 8 hours to thereby continue fusion for ageing, the system was then cooled to 30°C at a cooling speed of 10°C/min, added with hydrochloric acid to adjust pH to 3.0, and the stirring was terminated. --

Please amend the paragraph beginning at page 89, line 3 as follows:

-- A toner material consisting of 100 kg of styrene-butyl acrylate copolymer resin, 10 kg of carbon black "~~Mogul L~~" "MOGUL L" (product of Cabot Corporation), and 4 kg of polypropylene was preliminarily mixed in a ~~Henschel~~ HENSCHEL mixer, kneaded under fusion in a biaxial extruder, the fused-and-kneaded product was roughly cracked by a hammer mill, further ground by a jet grinding machine, and the obtained powder was repetitively classified using a pneumatic classifier until a desired particle diameter distribution is attained, to thereby obtain colorant particle (also referred to as "Colorant Particle (K5)", hereinafter) having a volume average particle diameter shown in Table 2. --

Please amend the paragraph beginning at page 94, line 5 as follows:

-- "Method 1": using a Henschel HENSCHEL mixer, a first stirring-and-mixing of the small-sized external additive is carried out under conditions of a volume/capacity ratio of 55%, a stirring speed of 52 m/sec, and a stirring time of 2 minutes, and a second stirring-and-mixing of the large-sized external additive is carried out under conditions of a stirring speed of 52 m/sec and a stirring time of 20 minutes; -

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Please amend the paragraph beginning at page 94, line 13 as follows:

-- "Method 2": using a Henschel HENSCHEL mixer, a first stirring-and-mixing of the small-sized external additive is carried out under conditions of a volume/capacity ratio of 55%, a stirring speed of 55 m/sec, and a stirring time of 1 minute, and a second stirring-and-mixing of the large-sized external additive is carried out under conditions of a stirring speed of 55 m/sec and a stirring time of 35 minutes; -

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Please amend the paragraph beginning at page 94, line 21 as follows:

-- "Method 3": using a ~~Henschel~~ HENSCHEL mixer, a first stirring-and-mixing of the small-sized external additive is carried out under conditions of a volume/capacity ratio of 55%, a stirring speed of 45 m/sec, and a stirring time of 1 minute, and a second stirring-and-mixing of the large-sized external additive is carried out under conditions of a stirring speed of 60 m/sec and a stirring time of 35 minutes; and --

Please amend the paragraph beginning at page 95, line 3 as follows:

-- "Method 4": using a ~~Henschel~~ HENSCHEL mixer, the large-sized external additive and the small-sized external additive are added at the same time, and the stirring-and-mixing is carried out under conditions of a volume/capacity ratio of 55%, a stirring speed of 50 m/sec, and a stirring time of 40 minutes. --

Please amend the paragraph beginning at page 101, line 7 as follows:

-- Fifty parts by mass each of liquid A and liquid B of liquid-type silicone rubber "KE-1935" (product of Shin-Etsu Chemical Co., Ltd.) and 8 parts by mass of conductive carbon black "#3030" (product of Mitsubishi Chemical Corporation) were mixed and defoamed in a mixing/defoaming apparatus ~~"Hybrid~~ "HYBRID mixer H" (product of Keyence Corporation) for 3 minutes to thereby prepare a coating liquid for forming the elastic layer. --

Please amend the paragraph beginning at page 101, line 17 as follows:

-- To a solution obtained by dissolving 5 parts by mass of styrene-butadiene elastomer "AR-S39948A" (product of ARONKASEI Co., Ltd.) into 100 parts by mass of toluene as a solvent, 0.2 parts by mass of a conductive carbon black ~~"Ketjen black"~~ "KETJEN BLACK" (product of Lion-Akzo Co., Ltd.) and 0.3 parts by mass of a conductive carbon black ~~"Printe~~ "PRINTE XE2" (product of Degussa Corporation) were added. The obtained mixed solution was uniformly dispersed using a mixing/defoaming apparatus ~~"Hybrid~~ "HYBRID mixer H"

(product of Keyence Corporation) to thereby prepare a coating liquid for forming the intermediate layer. --

Please amend the paragraph beginning at page 102, line 4 as follows:

-- One hundred parts by mass of polyurethane resin emulsion "YODOSOLRX-7" having a solid content of 35 wt % (product of Nippon NSC Ltd.), 0.35 parts by mass of a conductive carbon black ~~"Valecan~~ "VALCAN XC-7" (product of Cabot Corporation), and 3.5 parts by mass of a roughening particle ~~"Silica-Sylophere~~ "SILICA SYLOPHERE 470" (product of Fuji Silysia Chemical Ltd.) were mixed and defoamed in a mixing/defoaming apparatus ~~"Hybrid~~ "HYBRID mixer H" (product of Keyence Corporation) for 3 minutes to thereby prepare a coating liquid for forming the surface layer. --

Please amend the paragraph beginning at page 103, line 9 as follows:

-- By using a surface roughness measuring instrument ~~"Surfeom~~ "SURFCOM 1400A" (product of Tokyo Seimitsu Co., Ltd.), arithmetic mean roughness of the Toner Carrier (1) was measured at a scanning speed of 0.3

mm/s, a cut-off of 0.8 mm, a length of measurement of 4 mm, and a measurement pressure of 0.7 mm/N. --

Please amend the paragraph beginning at page 103, line 16 as follows:

-- A toner carrier (also referred to as "Toner Carrier (2)", hereinafter) was prepared similarly to as described in Exemplary Preparation of Toner Carrier 1, except that 3.5 parts by mass of a roughening particle ~~"Silica Sylophere~~ "SILICA SYLOPHERE 380" (product of Fuji Silysia Chemical Ltd.) was used in the preparation of the coating liquid for forming the surface layer, in place of 3.5 parts by mass of a roughening particle ~~"Silica Sylophere~~ "SILICA SYLOPHERE 470" (product of Fuji Silysia Chemical Ltd.)

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Please amend the paragraph beginning at page 104, line 7 as follows:

-- A toner carrier (also referred to as "Toner Carrier (3)", hereinafter) was prepared similarly to as described in Exemplary Preparation of Toner Carrier 1, except that 5.0 parts by mass of a roughening particle "Methylsilicone MSP-150" (product of Nikko Fine

Products Co., Ltd.) was used in the preparation of the coating liquid for forming the surface layer, in place of 3.5 parts by mass of a roughening particle "~~Silica Sylophere~~ "SILICA SYLOPHERE 470" (product of Fuji Silysia Chemical Ltd.) --

Please amend the paragraph beginning at page 104, line 22 as follows:

-- A toner carrier (also referred to as "Toner Carrier (4)", hereinafter) was prepared similarly to as described in Exemplary Preparation of Toner Carrier 1, except that 4.0 parts by mass of a roughening particle "~~Silica Sylophere~~ "SILICA SYLOPHERE #440" (product of Fuji Silysia Chemical Ltd.) was used in the preparation of the coating liquid for forming the surface layer, in place of 3.5 parts by mass of a roughening particle "~~Silica Sylophere~~ "SILICA SYLOPHERE 470" (product of Fuji Silysia Chemical Ltd.). --

Please amend the paragraph beginning at page 105, line 13 as follows:

-- A toner carrier (also referred to as "Toner Carrier (5)", hereinafter) was prepared similarly to as

described in Exemplary Preparation of Toner Carrier 1, except that 4.0 parts by mass of a roughening particle "Acryl fine particle EAX-20" (product of Sekisui Plastics Co., Ltd.) was used in the preparation of the coating liquid for forming the surface layer, in place of 3.5 parts by mass of a roughening particle "~~Silica Sylophere~~ "SILICA SYLOPHERE 470" (product of Fuji Silysia Chemical Ltd.) --